PATENT COOPERATION TREATY

TRANSLATION From the INTERNATIONAL SEARCHING AUTHORITY WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1) Date of mailing (day/month/year) Applicant's or agent's file reference FOR FURTHER ACTION NT1901PCT See paragraph 2 below International filing date (day/month/year) Priority date (day/month/year) International application No. 23.01.2004 20.01.2005 PCT/JP2005/000690 International Patent Classification (IPC) or both national classification and IPC HITACHI PLANT ENGINEERING & CONSTRUCTION CO., LTD. This opinion contains indications relating to the following items: Box No. I Basis of the opinion Box No. II Priority Non-establishment of opinion with regard to novelty, inventive step and industrial applicability Box No. III Box No. IV Lack of unity of invention Reasoned statement under Rule 43bis. 1(a)(i) with regard to novelty, inventive step or industrial Box No. V applicability; citations and explanations supporting such statement Box No. VI Certain documents cited Box No. VII Certain defects in the international application Certain observations on the international application Box No. VIII FURTHER ACTION If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered. If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCI/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later. For further options, see Form PCT/ISA/220. For further details, see notes to Form PCT/ISA/220. Name and mailing address of the ISA/JP Authorized officer

Facsimile No.

Box	No. I	Basis of this opinion
1.	With filed,	regard to the language, this opinion has been established on the basis of the international application in the language in which it was unless otherwise indicated under this item.
		This opinion has been established on the basis of a translation from the original language into the following language
	_	, which is the language of a translation furnished for the purposes of international search (under
		Rule 12.3 and 23.1(b)).
2.	With inven	regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed tion, this opinion has been established on the basis of:
	a.	type of material
		a sequence listing
		table(s) related to the sequence listing
	b.	format of material
	[in written format
		in computer readable form
	c.	time of filing/furnishing
		contained in the international application as filed.
ŀ		filed together with the international application in computer readable form.
	ĺ	furnished subsequently to this Authority for the purposes of search.
١.		In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or
3.	Ш	In addition, in the case that liner than one version or copy of a greater than the capital and the formished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
		filed or does not go beyond the approximation as thed, as appropriate, were rathered.
4.	Addi	tional comments:
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		•
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Box	No. IV	Lack of unity of invention						
1.		response to the invitation (Form PCT/ISA/206) to pay additional fees the applicant has:						
		paid additional fees						
	Ĺ	paid additional fees under protest						
	Ī	not paid additional fees	į					
2.		his Authority found that the requirement of unity of invention is not complied with and chose not to invite the applicant to idditional fees.	pay					
3.	This A	othority considers that the requirement of unity of invention in accordance with Rules 13.1, 13.2 and 13.3 is						
		omplied with						
		ot complied with for the following reasons:						
	A part of the inventions of claims 1-6 and the inventions of claims 11 and 12 (invention group A) relates to a microorganism separating device comprising sample liquid separating means for stopping the supply of a sample liquid to a first flow passage based on the result of detection of a microorganism by a microorganism sensor and then discharging said detected microorganism from the end side of said first flow passage together with the sample liquid. A part of the inventions of claims 7-10 and the inventions of claims 11 and 12 (invention group B) relates a microorganism separating device, wherein a first flow passage and a second flow passage are connected through an orifice, and the passage of a microorganism through an orifice can be detected by a pair of electrodes placed in a first flow passage and a second flow passage, respectively. The matter common in the invention group A and the invention group B relates to a microorganism separating device having sample supplying means, a first flow passage and a sensor capable of detecting a microorganism. However, the matter was well known before the date of priority of this application as described in JP, 9-145593, A, and therefore this common matter is not a special technical feature in the sense of the second paragraph of PCT Rule 13.2.							
١								
4.	Con	quently, this opinion has been established in respect of the following parts of the international application:						
•	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \							
		the parts relating to claims Nos.						
1	ш	ne pæts retating to ciaims 190s.	_					

_			ale 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; opporting such statement	
1.	Statement			
	Novelty (N)	Claims	1-12	YES
		Claims		NO
	Inventive step (IS)	Chima	1-6, 11, 12	YES
	• • •		7-10	NO
	Industrial applicability (IA)			VEC
	nadsitai appiteatinty (1A)	Claims Claims	1-12	- YES NO
	•	Claims		
	US, 2001/0032495, A1 Document 3: JP, 9-145: Document 4: JP, 2000- none) Document 5: JP, 2003- (Family: none) Document 6: JP, 2003- none) Document 7: A.Y. Fu e pages 2451-2457 Document 8: A.Y. Fu e 1999, Vol. 17, pages 11 The subject ma documents 1-8 cited in Documents 1 a the passage of a microo to describe a device sep Accordingly, a microorganisms by dete produced referring to th	593, A (N 74816, A 284544, A 274924, A at al., An i at al., A m 109-1111 atters of cl the ISR. nd 2 are conganism to parating in person skeeting the	A (Sysmex Corporation), 31 October, 2001 (31.10.01), full text, likon Corporation), 6 June, 1997 (06.06.97), full text (Family: 1 (Nireco Corporation), 14 March, 2000 (14.03.00), full text (Fa A (Aisin Seiki Co., Ltd.), 7 October, 2003 (07.10.03), full text (Family: 1 A (Jun Kikuchi), 30 September, 2003 (30.09.03), full text (Family: 1 A (Jun Kikuchi), 30 September, 2003 (30.09.03), full text (Family: 1 A (Jun Kikuchi), 30 September, 2003 (30.09.03), full text (Family: 1 A (Jun Kikuchi), 30 September, 2003 (30.09.03), full text (Family: 1 A (Jun Kikuchi), 30 September, 2003 (30.09.03), full text (Family: 1 A (Jun Kikuchi), 30 September, 2003 (30.09.03), full text (Family: 1 A (Jun Kikuchi), 30 September, 2003 (30.09.03), full text (Family: 1 A (Jun Kikuchi), 30 September, 2003 (30.09.03), full text (Family: 1 A (Jun Kikuchi), 30 September, 2003 (30.09.03), full text (Family: 1 A (Jun Kikuchi), 30 September, 2003 (30.09.03), full text (Family: 1 A (Jun Kikuchi), 30 September, 2003 (30.09.03), full text (Family: 1 A (Jun Kikuchi), 30 September, 2003 (30.09.03), full text (Family: 1 A (Jun Kikuchi), 30 September, 2003 (30.09.03), full text (Family: 1 A (Jun Kikuchi), 30 September, 2003 (30.09.03), full text (Family: 1 A (Jun Kikuchi), 30 September, 2003 (30.09.03), full text (Family: 1 A (Jun Kikuchi), 30 September, 2003 (30.09.03), full text (Family: 1 A (Jun Kikuchi), 30 September, 2003 (30.09.03), full text (Family: 1 A (Jun Kikuchi), 30 September, 2003 (30.09.03), full text (Family: 1 A (Jun Kikuchi), 30 September, 2003 (30.09.03), full text (Family: 1 A (Jun Kikuchi), 30 September, 2003 (30.09.03), full text (Family: 1 A (Jun Kikuchi), 30 September, 2003 (30.09.03), full text (Family: 1 A (Jun Kikuchi), 30 September, 2003 (30.09.03), full text (Family: 1 A (Jun Kikuchi), 30 September, 2003 (30.09.03), full text (Family: 1 A (Jun Kikuchi), 30 September, 2003 (30.09.03), full text (Family: 1 A (Jun Kikuchi), 30 September, 2003 (30.09.03), full text (Family: 1 A (Jun Kikuchi), 30 September, 2003 (30.09.03), full	mily: 74, ol., f atting derecting ode is
	have accordingly made between the electrode a	ro dobernp	ge port and the like suitable and made the positional relation	

PATENT COOPERATION TREATY

TRANSLATION INTERNATIONAL SEARCHING AUTHORITY To: WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1) Date of mailing (day/month/year) Applicant's or agent's file reference FOR FURTHER ACTION NT1901PCT See paragraph 2 below Priority date (day/month/year) International filing date (day/month/year) International application No. 23.01.2004 20.01.2005 PCT/JP2005/000690 International Patent Classification (IPC) or both national classification and IPC Applicant HITACHI PLANT ENGINEERING & CONSTRUCTION CO., LTD. This opinion contains indications relating to the following items: \times Box No. I Basis of the opinion Box No. II Priority Non-establishment of opinion with regard to novelty, inventive step and industrial applicability Box No. III Box No. IV Lack of unity of invention Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial Box No. V applicability; citations and explanations supporting such statement Box No. VI Certain documents cited Certain defects in the international application Box No. VII Certain observations on the international application Box No. VIII FURTHER ACTION If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered. If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PC1/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later. For further options, see Form PCT/ISA/220. For further details, see notes to Form PCT/ISA/220. Authorized officer Name and mailing address of the ISA/JP

Telephone No

Facsimile No.

Box N	o. 1 Basis of this opinion
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i	a. type of material
[a sequence listing
	table(s) related to the sequence listing
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	filed together with the international application in computer readable form.
	furnished subsequently to this Authority for the purposes of search.
3.	In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed of furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4.	Additional comments:
	\cdot

Box No. IV Lack of unity of invention
1. In response to the invitation (Form PCT/ISA/206) to pay additional fees the applicant has:
paid additional fees
paid additional fees under protest
not paid additional fees
2. This Authority found that the requirement of unity of invention is not complied with and chose not to invite the applicant to pay additional fees.
3. This Authority considers that the requirement of unity of invention in accordance with Rules 13.1, 13.2 and 13.3 is
complied with
not complied with for the following reasons:
A part of the inventions of claims 1-6 and the inventions of claims 11 and 12 (invention group A) relates to a microorganism separating device comprising sample liquid separating means for stopping the supply of a sample liquid to a first flow passage based on the result of detection of a microorganism by a microorganism sensor and then discharging said detected microorganism from the end side of said first flow passage together with the sample liquid. A part of the inventions of claims 7-10 and the inventions of claims 11 and 12 (invention group B) relates a microorganism separating device, wherein a first flow passage and a second flow passage are connected through an orifice, and the passage of a microorganism through an orifice can be detected by a pair of electrodes placed in a first flow passage and a second flow passage, respectively. The matter common in the invention group A and the invention group B relates to a microorganism separating device having sample supplying means, a first flow passage and a sensor capable of detecting a microorganism. However, the matter was well known before the date of priority of this application as described in JP, 9-145593, A, and therefore this common matter is not a special technical feature in the sense of the second paragraph of PCT Rule 13.2.
4. Consequently, this opinion has been established in respect of the following parts of the international application:
all parts
the parts relating to claims Nos.

Box No. V	Researed stateme				entive step or industrial applicability	
	citations and expl				one to stop of measure approaching	<u> </u>
1. States	ment					
. N	ovelty (N)	Claims	1-12		· · · · · · · · · · · · · · · · · · ·	YES
		Claims				_ NO
T			1 6			
ın	ventive step (IS)	Claims		11, 12		_ YES
		Claims				NO
In	dustrial applicability (IA)	Claims	1-12		•	YES
		Claims				 NO
	· .					
2. Citati	ons and explanations:					
Doc	ument 1: JP, 11-281	564, Λ (S	Sysmex C	Corporation), 15 October	er, 1999 (15.10.99), full text	
(Fai	nily: none)				0004 (04 40 04) (0.11)	
		05041, A	(Sysmex	x Corporation), 31 Octo	ober, 2001 (31.10.01), full tex	it, &
	2001/0032495, A1	02 A (NI	ikon Com	nomian) 6 June 1007	(06.06.97), full text (Family:	none)
Doc	ument 5: JP, 9-1455 ument 4: JP 2000-7	193, A (N 14816 A	(Nireco C	Corporation), 0 June, 1997	, 2000 (14.03.00), full text (F	amily:
non	e)			_		
		84544, A	A (Aisin S	seiki Co., Ltd.), 7 Octob	per, 2003 (07.10.03), full text	
	nily: none)	74004	/I I/I		0002 (20 00 02) full taut (Eas	ss:1,
Doc		74924, A	(Jun Kik	kuchi), 30 September, 2	2003 (30.09.03), full text (Far	ility:
		al An i	ntegrated	microfabricated cell so	orter, Anal. Chem., 2002, Vol	l. 74,
page	es 2451-2457		_			
			icrofabric	cated fluorescence-activ	rated cell sorter, Nat. Biotech	nol.,
199	9, Vol. 17, pages 11	09-1111				
doc	The subject mat		aims 7-10	do not appear to invol	ve an inventive step in view	of
400			onsidered	d to describe a microorg	ganism detecting device detec	ting -
					ode. Documents 3-8 are cons	sidered
to d				nisms using various kin		ratina
mic	Accordingly, a programisms by dete	person sk cting the	nassage o	ie arī could nave easily of a microorganism thro	conceived that a device sepa ough an orifice using an elect	rode is
proc	duced referring to the	e descrip	tions of de	ocuments 1-8. At this t	ime, a person skilled in the a	rt could
, have	e accordingly made	a dischar	ge port an	nd the like suitable and	made the positional relation	
betv	veen the electrode ar	nd the ori	fice suital	ble.	1 11 66	
•	The subject mat	ters of cla	aims 7-10) are not considered to	exhibit a remarkable effect.	
	The subject mat	ters of cl	aims 1-6,	11 and 12 are neither of	lescribed in any of the docun	nents
cite	in the ISR nor obv					
*						

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TRANSLATION From the INTERNATIONAL SEARCHING AUTHORITY To: WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1) Date of mailing (day/month/year) FOR FURTHER ACTION Applicant's or agent's file reference See paragraph 2 below NT1901PCT Priority date (day/month/year) International filing date (day/month/year) International application No. 23.01.2004 20.01.2005 PCT/JP2005/000690 International Patent Classification (IPC) or both national classification and IPC Applicant HITACHI PLANT ENGINEERING & CONSTRUCTION CO., LTD. This opinion contains indications relating to the following items: Box No. I Basis of the opinion Box No. II Non-establishment of opinion with regard to novelty, inventive step and industrial applicability Box No. III Box No. IV Lack of unity of invention Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial Box No. V applicability; citations and explanations supporting such statement Certain documents cited Box No. VI Certain defects in the international application Box No. VII Certain observations on the international application Box No. VIII FURTHER ACTION If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered. If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCI/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later. For further options, see Form PCT/ISA/220. For further details, see notes to Form PCT/ISA/220. Authorized officer Name and mailing address of the ISA/JP

Telephone No

Facsimile No.

Box	No. I	Basis of this opinion	
1.		regard to the language, this opinion unless otherwise indicated under t	on has been established on the basis of the international application in the language in which it was his item.
,		This opinion has been established	on the basis of a translation from the original language into the following language, which is the language of a translation furnished for the purposes of international search (under
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2.	With inven	regard to any nucleotide and/oi	r amino acid sequence disclosed in the international application and necessary to the claimed thed on the basis of:
	a.	type of material	
		a sequence listing	
		table(s) related to the seque	nce listing
	b.	format of material	
		in written format	
		in computer readable form	
	c.	time of filing/furnishing	
		contained in the internation	al application as filed.
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		furnished subsequently to the	nis Authority for the purposes of search.
		Y different of the country that man	e than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or
3.	Ц	furnished, the required statement	e man one version of copy of a special minigration and the subsequent or additional copies is identical to that in the application as optication as filed, as appropriate, were furnished.
		med of does not go beyond the a	prication as face, as appropriate, were remained.
4.	Λddi	tional comments:	
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		. *	
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Box No. IV Lack of unity of invention
1. In response to the invitation (Form PCT/ISA/206) to pay additional fees the applicant has:
In response to the invitation (Form PC1/15/V200) to pay additional fees the applicant has.
paid additional fees
paid additional fees under protest
not paid additional fees
2. This Authority found that the requirement of unity of invention is not complied with and chose not to invite the applicant to pay additional fees.
3. This Authority considers that the requirement of unity of invention in accordance with Rules 13.1, 13.2 and 13.3 is
complied with
not complied with for the following reasons:
A part of the inventions of claims 1-6 and the inventions of claims 11 and 12 (invention group A) relates to a microorganism separating device comprising sample liquid separating means for stopping the supply of a sample liquid to a first flow passage based on the result of detection of a microorganism by a microorganism sensor and then discharging said detected microorganism from the end side of said first flow passage together with the sample liquid. A part of the inventions of claims 7-10 and the inventions of claims 11 and 12 (invention group B) relates a microorganism separating device, wherein a first flow passage and a second flow passage are connected through an orifice, and the passage of a microorganism through an orifice can be detected by a pair of electrodes placed in a first flow passage and a second flow passage, respectively. The matter common in the invention group A and the invention group B relates to a microorganism separating device having sample supplying means, a first flow passage and a sensor capable of detecting a microorganism. However, the matter was well known before the date of priority of this application as described in JP, 9-145593, Λ , and therefore this common matter is not a special technical feature in the sense of the second paragraph of PCT Rule 13.2.
·
·
·
4. Consequently, this opinion has been established in respect of the following parts of the international application:
all parts
the parts relating to claims Nos.

International application No.
PCT/JP2005/000690

		VIEK. WILOW	AL SEARC	Jim to mornon	• •	j		20007000	
Bo	x No. V Recita	asoned statemen ations and expla	t under Ru nations sup	de 43bis.1(a)(i) with porting such states	n regard to no ment	velty, inventiv	e step or indus	trial applicabilit	у;
1.	Statement								
	Novelty (N)			1-12					YE
		•	Claims			 			NO
	Inventive step	(IS)	Claims	1-6, 11,	12		<u>.</u>		YE
			Claims	7-10					NO
	Industrial app	licability (IA)	Claims	1-12					YE
			Claims						NO
	(Family: nor Document 2 US, 2001/00 Document 3 Document 4 none) Document 5 (Family: nor Document 6 none) Document 7 pages 2451-Document 8	ne) : JP, 2001-30 : JP, 2001-30 : JP, 9-14559 : JP, 2000-74 : JP, 2003-21 ne) : JP, 2003-2 : A.Y. Fu et	05041, Δ 93, A (N 4816, A 84544, Δ 74924, Δ al., An i	Sysmex Corpo (Sysmex Corpo ikon Corporati (Nireco Corpo (Aisin Seiki C (Jun Kikuchi ntegrated micr icrofabricated	poration), 3 ion), 6 June ration), 14 Co., Ltd.), 7), 30 Septe ofabricated	11 October 2, 1997 (06 March, 20 7 October, mber, 2003	2, 2001 (31.1 5.06.97), full 5.06 (14.03.0 2003 (07.10 3 (30.09.03) r, Anal. Che	10.01), full te I text (Family 0), full text (0.03), full tex), full text (Fa em., 2002, Vo	ext, & y: none Family kt amily: ol. 74,

The subject matters of claims 7-10 do not appear to involve an inventive step in view of documents 1-8 cited in the ISR.

Documents 1 and 2 are considered to describe a microorganism detecting device detecting the passage of a microorganism through an orifice using an electrode. Documents 3-8 are considered to describe a device separating microorganisms using various kinds of signals.

Accordingly, a person skilled in the art could have easily conceived that a device separating microorganisms by detecting the passage of a microorganism through an orifice using an electrode is produced referring to the descriptions of documents 1-8. At this time, a person skilled in the art could have accordingly made a discharge port and the like suitable and made the positional relation between the electrode and the orifice suitable.

The subject matters of claims 7-10 are not considered to exhibit a remarkable effect.

The subject matters of claims 1-6, 11 and 12 are neither described in any of the documents cited in the ISR nor obvious to a person skilled in the art.